



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/485,525	02/09/2000	DOROTHEA LAMPE	P99,2604	2026

7590 01/11/2005  
KEVIN R. SPIVAK  
MORRISON & FOERSTER LLP  
2000 PENNSYLVANIA AVENUE, N.W.  
WASHINGTON, DC 20006-1888

EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
----------	--------------

2665

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

3

## Office Action Summary

Application No.

09/485,525

Applicant(s)

LAMPE ET AL.

Examiner

Daniel J. Ryman

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 11/05/2004 have been fully considered but they are not persuasive. On page 6 of the Response, Applicant argues that the Examiner is not free to broadly interpret the term "effective bandwidth" in the claims by equating this term to the "estimated bandwidth" of Soumiya since "the specification clearly defines the term effective bandwidth, as described in Equation (1)". Examiner, respectfully, disagrees.
2. Equation (1) is used to calculate  $c_k^{\text{eff}}$  where " $c_k^{\text{eff}}$  is defined as effective bandwidth of all connections with reference to the classes k." Specification, page 7, lines 5-6. Thus, while the specification's explanation of Equation (1) contains the term "effective bandwidth," Equation (1) does not define the term "effective bandwidth." Examiner cannot find a clear definition of the term "effective bandwidth" in the specification. Rather Applicant uses the term "effective bandwidth" throughout the specification as though the term is known in the art. *See e.g.* Specification, page 1, lines 24-27, page 2, lines 20-23, and page 7, lines 1-7. Absent a clear definition in the specification, Examiner is required to give the term "effective bandwidth" the broadest reasonable interpretation possible. *See* MPEP § 2111.01.
3. In the prior art, "effective bandwidth" is a value assigned to a connection for the purposes of admission control. *See* Berger et al. (USPN 6,160,818) col. 1, lines 19-25; Beshai et al. (USPN 5,881,049) col. 1, line 62-col. 2, line 3. Since the "effective bandwidth" is assigned to the connection before the connection is admitted, it is implicit, or at least strongly suggested, that the "effective bandwidth" is an estimation of the bandwidth that a connection will require when admitted. Thus, Examiner maintains that a broad, reasonable interpretation of the term "effective

Art Unit: 2665

bandwidth” allows for the term “effective bandwidth” of the claims to be equated to the term “estimated bandwidth” in Soumiya.

4. Further, Applicant seems to suggest that the term “effective bandwidth” is synonymous with “estimated bandwidth.” Applicant discloses that “[t]he sigma rule algorithm is started at every step and . . . supplies an estimate of the bandwidth.” Specification, page 6, lines 7-18. In claim 19, Applicant claims that the sigma rule algorithm “identify[ies] the prescribed effective bandwidth on a step-by-step basis.” Thus, Applicant discloses that the sigma rule algorithm is used to determine a prescribed effective bandwidth and an estimate of the bandwidth, such that Applicant suggests that the effective bandwidth is equivalent to an estimated bandwidth.

5. Applicant also refers Examiner to the arguments located in the previously filed response. Since Examiner has answered these arguments in previous Office Actions, Examiner will not respond to any arguments previously filed, but rather Examiner will rely on the responses that Examiner has presented in these previous Office Actions.

6. For the above reasons, Examiner maintains that the rejection of the claims is proper.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 10 and 12-15 are rejected under 35 U.S.C. 102(a) as being anticipated by Soumiya et al (USPN 5,583,857).

Art Unit: 2665

9. Regarding claim 10, Soumiya discloses a method for statistical multiplexing of ATM connections comprising: conducting a plurality of ATM connections over a common connecting line (col. 5, lines 48-56 and col. 7, lines 12-28), the plurality of ATM connections having an effective bandwidth (estimated bandwidth) reserved for conduction of the aggregate of the plurality of ATM connections on the connecting line (col. 17, lines 24-54; col. 18, lines 62-65; col. 19, lines 40-43; and col. 20, lines 48-col. 21, line 29, esp. col. 20, line 67-col. 21, line 3), and utilizing an acceptance algorithm that allocates potential added connections to one of a first class (Fig. 19: step 202 VBR) and a second class (Fig. 19: step 202 CBR) (Fig. 19 and col. 17, lines 15-23), and deciding whether an additional potential added connection can be accepted by the common connecting line based on acceptance criteria (total estimated bandwidth including the potential added connection is less than the physical bandwidth) and a prescribed effective bandwidth (estimated bandwidth) (Fig. 19; col. 7, lines 19-64; and col. 17, lines 15-67), the deciding step comprising: identifying the prescribed effective bandwidth (estimated bandwidth) on a step-by-step basis with at least one of a setup and a release of connection (Figs. 19-21, 23, and 24; col. 17, line 15-col. 21, line 29; and col. 21, lines 31-48), wherein the identification starts from an initial value and the acceptance algorithm is performed at every step (Figs. 19-21, 23, and 24; col. 17, line 15-col. 21, line 21; and col. 21, lines 31-48) where it is inherent that there is an initial value such that the process either begins with a zero effective bandwidth upon initialization if no calls are yet allocated bandwidth or the process is initialized with the bandwidth of any connections the line will carry at initialization; determining whether at least one of the additional potential added connection or a released connection may be accepted by at least one of the first class and the second class (Fig. 19 and 23; col. 7, lines 19-64; col. 17, lines

Art Unit: 2665

15-23; and col. 21, lines 31-48); defining a first bandwidth representative of the first class (V) and a second bandwidth representative of the second class (VX) (Fig. 19 and 23; col. 17, lines 28-67; col. 20, line 48-col. 21, line 29; and col. 21, lines 31-48), modifying at least one of the first and second bandwidths by at least one of a sustainable cell rate and a peak cell rate based on the acceptance of the additional potential added connection to at least one of the first class and the second class (Figs. 19-21, 23, and 24; col. 17, line 15-col. 21, line 29, esp. col. 17, lines 15-67; and col. 18, line 17-col. 19, line 43; and col. 21, lines 31-48) where the first and second bandwidths are modified by a peak cell rate; and at least one of accepting and rejecting the additional potential added connection based on at least the identified prescribed effective bandwidth and the acceptance criteria (total estimated bandwidth including the potential added connection is less than the physical bandwidth) (Figs. 19-21; col. 17, lines 54-62; col. 21, lines 4-29; and col. 21, lines 31-48).

10. Regarding claim 12, referring to claim 10, Soumiya discloses that at least one of the acceptance criteria is established such that, in the case of the connection setup, when the additional potential added connection can be accepted to the first class (VBR), a calculation is performed to determine whether the first bandwidth identified is adequate including this connection, wherein the first bandwidth is not allowed to exceed the sum of the peak cell rates of all connections (Figs. 19-21; col. 18, lines 51-55; and col. 21, lines 4-29) where  $VH1$  is always less than or equal to  $PH1$  (peak cell rates) since  $VH1$  is not equal to  $PH1$  only when  $VH1$  is equal to  $AH1$  when  $AH1$  is less than  $PH1$ ; and the first bandwidth is incremented by the first traffic parameter value (average cell rate,  $Ra$ ) (Figs. 19-21, ref. 302-304; col. 18, lines 17-24; and col. 18, lines 51-55) when the at least one of the acceptance criteria (estimated peak cell rate is

Art Unit: 2665

greater than average cell rate) is met (Figs. 19-21, ref. 303, and col. 18, lines 51-55) and the first bandwidth is incremented by the second traffic parameter value (peak cell rate,  $R_p$ ) (Figs. 19-21, ref. 302, 303, and 305; col. 18, lines 35-43; and col. 18, lines 51-55) when the at least one of the acceptance criteria is not met (Figs. 19-21, ref. 303, and col. 18, lines 51-55).

11. Regarding claim 13, referring to claim 12, Soumiya discloses that when the additional potential added connection cannot be allocated to the first class (VBR), it is automatically allocated to the second class (CBR) and the second bandwidth is incremented by the second traffic parameter value (peak cell rate) (Fig. 19, ref. 203, and col. 17, lines 15-67).

12. Regarding claim 14, referring to claim 10, Soumiya discloses at least one of the acceptance criteria (Fig. 24) is established such that, in the case of the connection release when the released connection can be accepted by the first class (Fig. 23: VBR), a calculation is performed to determine whether the first bandwidth ( $V$ ), exclusive of this connection, is adequate for the remaining connections (Fig. 23 and 24 and col. 21, lines 31-48), wherein the first bandwidth is not allowed to exceed the sum of the peak cell rates of all connections (Figs. 19-21, 23, and 24; col. 18, lines 51-55; col. 21, lines 4-29; and col. 21, lines 31-48) where  $VH1$  is always less than or equal to  $PH1$  (peak cell rates) since  $VH1$  is not equal to  $PH1$  only when  $VH1$  is equal to  $AH1$  when  $AH1$  is less than  $PH1$ ; and the first bandwidth is diminished by the second traffic parameter value (peak cell rate,  $R_p$ ) when the at least one of the acceptance criteria is met (estimated peak cell rate is less than average cell rate) (Fig. 24; col. 18, lines 51-55; and col. 21, lines 31-48) and the first bandwidth is diminished by the first traffic parameter value (average cell rate,  $R_a$ ) when the at least one of the acceptance criteria is not met (estimated peak cell rate is less than average cell rate) (Fig. 24; col. 18, lines 51-55; and col. 21, lines 31-48).

13. Regarding claim 15, referring to claim 14, Soumiya discloses that when the connection to be released cannot be allocated to the first class (VBR), it is automatically allocated to the second class (CBR) and the second bandwidth is diminished by the second traffic parameter value (peak cell rate) (Fig. 23; col. 17, lines 15-67; and col. 21, lines 31-48).

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soumiya et al (USPN 5,583,857) as applied to claim 10 above, and further in view of Ben-Nun et al (USPN 5,515,363).

16. Regarding claim 11, referring to claim 10, Soumiya discloses that the peak cell rate is of the corresponding connection (Figs. 19-21, 23, and 24; col. 17, line 15-col. 21, line 29, esp. col. 17, lines 15-67; and col. 18, line 17-col. 19, line 43; and col. 21, lines 31-48). Soumiya does not expressly disclose that the sustainable cell rate (SCR) is an upper limit for an average cell rate with which the cells are transmitted during existence of the connection since Soumiya discloses using an average cell rate rather than a sustainable cell rate. However, Soumiya also discloses that the average cell rate is defined at the start of the connection for variable speed connections (col. 9, lines 7-44). Ben-Nun discloses, in an ATM system, that the sustainable cell rate is an upper limit for an average cell rate with which the cells are transmitted during existence of the connection (col. 4, lines 24-34). Ben-Nun also discloses that the SCR is a negotiated parameter



Art Unit: 2665

for variable rate connections (col. 4, line 66-col. 5, line 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to use SCR in place of the average cell rate, where SCR is an upper limit for an average cell rate with which the cells are transmitted during existence of the connection, since SCR is a parameter negotiated for variable rate connections at the start of the connection.

17. Regarding claim 16, referring to claim 11, Soumiya in view of Ben-Nun discloses at least one of the acceptance criteria (Fig. 24) is established such that when the connection to be released is allocated to the first class (Fig. 23: VBR), a calculation is performed to determine whether the first bandwidth (V) without this released connection is adequate for the remaining connections (Fig. 23 and 24 and col. 21, lines 31-48); and wherein the first bandwidth is diminished by the second traffic parameter value (peak cell rate,  $R_p$ ) when the at least one acceptance criterion is met (estimated peak cell rate is less than average cell rate) (Fig. 24; col. 18, lines 51-55; and col. 21, lines 31-48) and the value of the identified first bandwidth is upwardly limited by the sum of the peak cell rates of the first class (Fig. 24; col. 18, lines 51-55; and col. 21, lines 31-48).

18. Regarding claim 17, referring to claim 11, Soumiya in view of Ben-Nun discloses that the effective bandwidth is derived from the sum of the first and second bandwidth (Soumiya: Figs. 19-21, 23, and 24, step 206'; col. 17, lines 24-62; col. 21, lines 4-29; and col. 21, lines 31-48).

19. Regarding claim 18, referring to claim 11, Soumiya in view of Ben-Nun discloses that the acceptance algorithm is started only once per connection to be one of potentially added and released (Soumiya: Figs. 19 and 23: call request admission and call request release; col. 17, lines 15-67; col. 21, lines 4-29; and col. 21, lines 31-48).

Art Unit: 2665

20. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Soumiya et al (USPN 5,583,857) in view of Applicant's Admitted Prior Art.

21. Regarding claim 19, referring to the rejection of claim 10, Soumiya discloses all of the limitations of claim 19, as outlined in the rejection of claim 10, except that the acceptance algorithm is a sigma rule algorithm. Applicant admits that the sigma rule algorithm is known in the prior art as a simple method for handling acceptance procedures (page 3, lines 3-6) where the sigma rule allocates a potential connection to one of two classes (page 3, line 3-18). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a sigma rule algorithm, which allocates a potential connection to one of two classes, as an acceptance algorithm, which allocates a potential connection to one of two classes, since the sigma rule algorithm is a simple method.

### ***Conclusion***

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Art Unit: 2665

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 Daniel J. Ryman  
Examiner  
Art Unit 2665

  
HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600